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SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER	
LAMB, BRENDA A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/630,544	JIANG ET AL.	
	Examiner	Art Unit	
	Brenda A. Lamb	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-14 and 40-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-14 and 40-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9-12, 41 and 43 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 and 8-11 of copending Application No. 10/643,567 (Jiang et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al 10/643,567 claims a semiconductor die stencil having a top surface, a bottom surface and one or more side surfaces, the bottom surface having a surface tension at least one order of magnitude less than a top surface and a surface tension at least one order of magnitude less than a surface tension of the side surfaces. With respect to claims 10-12, the above cited application claims the first surface is a bottom surface and the second surface is a top surface. With respect to claims 41 and 43, Jiang et al 10/643,567 claims the bottom surface is a polymeric material.

Claims 46-49 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 8-11 of copending Application No. 10/643,567 (Jiang et al) in view of Hefele.

Jiang et al 10/643,567 are applied to reasons for the reasons and claims the sheet of material is impervious to the printable material but fails to claim the sheet of material is stainless steel. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the sheet of material from stainless steel, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and, in any event, it is known to construct the base material of the stencil from stainless steel as taught by Hefele. In re Leshin, 125 USPQ 416. With respect to claim 47-48, the modified Jiang et al 10/643,567 inherently having a surface tension within the scope of the claims. Jiang et al 10/643,567 claims the coating is a polymeric material.

This is a provisional obviousness-type double patenting rejection.

Claims 9, 14, 40, 41, 44, 45 and 50-52 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/701,140. Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al '140 claims a stencil having a top surface, a bottom surface and one or more side surfaces, the bottom surface having a surface tension less than a surface tension of the top surface and less than a surface tension of the side surfaces. With respect to claims 14, 40, 41, 44, 45 and 50-52, Jiang et al '140 claims the first surface is a bottom surface and the second surface is a top surface. Jiang et al '140 claims the second coating is a polymeric material and first coating is a surface is a coating selected from the group

consisting of any one or more of tungsten, tungsten carbide, tungsten nitride, nickel, and nickel alloy in any combination. Jiang et al '140 claims first coating is a surface is a coating selected from the group consisting of any one or more of tungsten, tungsten carbide, tungsten nitride, nickel, and nickel alloy in any combination which reads on the coating claimed by applicant thereby inherently providing the function of promoting the adhesive running onto the substrate and a first surface having inherently having a surface tension at least one order of magnitude greater than surface tension of the second surface or polymeric coated surface. Jiang et al '140 stencil is capable of being used as a semiconductor die stencil since it teaches every element of the apparatus/stencil. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 9-14 and 40-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. Patent No. 6,607,599 (Jiang et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al claims a semiconductor die stencil to assist in application of a printable adhesive in a desired

pattern onto a semiconductor die comprising: a sheet of material or stencil pattern, the sheet having a top surface and a bottom surface; a plurality of apertures in the sheet of material defining a desired pattern for application of the printable adhesive; and a coating applied to the bottom surface of the sheet to retard spreading of the printable adhesive onto the bottom surface of the sheet. Jiang et al claims that the sheet of material is impervious to the adhesive and claims stencil or sheet of material is stainless steel. Jiang et al is silent to the coating being applied to the bottom of the sheet in a manner so as to obstruct of the flow of printable adhesive through the apertures onto the die and thereby reads on the claimed negative limitation of coating the sheet of material without obstruction of the adhesive through the apertures of the sheet. Jiang et al claims both the coating and the material have a surface tension, the surface tension of the coating being less than the surface tension of the material. Thus claims 9-12 and 46-47 are obvious over Jiang et al. With respect to claims 41, 43, 48-49, Jiang et al claims the surface tension of the coating, a polymeric material – polytetrafluoroethylene, is at least an order of magnitude less than the surface tension of the material which is claimed as stainless steel. With respect to claim 13, Jiang et al claims the side surface of the stencil are coated with one material and the bottom surface of the stencil is coated with another different material such that surface tension of the bottom surface relative to the side surface is within the scope of the claim. With respect to claims 40 and 42, Jiang et al claims the top surface of the stencil is coated with a coating material within the scope of the claim. With respect to claim 14, 44, 45 and 50-52, Jiang et al claims a semiconductor die stencil having a sheet of material or stencil pattern, the

sheet having a top surface and a bottom surface, the first surface having a surface tension greater than a surface tension of the second surface to promote adhesive running onto a semiconductor die; a plurality of apertures in the sheet of material defining a desired pattern for application of the printable adhesive. Jiang et al claims a semiconductor die stencil having a second surface is polymeric and first surface is coating within the scope of the claims

Claims 9-14 and 40-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,641,669 (Jiang et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al claims a stencil/screen/pattern to assist in application of a printable adhesive in a desired pattern onto a substrate comprising: a sheet of material or stencil pattern, the sheet or pattern having a top surface and a bottom surface; a plurality of apertures in the sheet of material defining a desired pattern for application of the printable adhesive; and a polymeric coating applied to the bottom surface of the sheet to retard spreading of the printable adhesive onto the bottom surface of the sheet. Jiang et al claims both the coating and the material have a surface tension, the surface tension of the coating being less than the surface tension of the material such as set forth in claims 9-12, 41, 43, 46-47 and 49. Jiang et al fails to claim that the sheet of material is impervious to the adhesive but the claimed stencil or sheet of material which is stainless steel is impervious to adhesive. Jiang et al is silent to the coating being applied to the bottom of the sheet in a manner so as to obstruct of the flow of printable adhesive through the

apertures onto the die and thereby reads on the claimed negative limitation of coating the sheet of material without obstruction of the adhesive through the apertures of the sheet. Further with respect to claim 14, 40, 42, 44-45 and 50-52, Jiang et al claims the stencil is further comprised of a layer to promote spreading of the printable material and the layer is selected from the group consisting of one of tungsten, tungsten carbide, tungsten nitride. Jiang et al is capable of its end use as a semiconductor stencil since it claims every structural element of the claimed stencil. With respect to claim 48, Jiang et al claims the surface tension of the coating which is claimed as being polytetrafluoroethylene is at least an order of magnitude less than the surface tension of the material which is claimed as stainless steel.

Claims 9-14 and 40-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-77 of U.S. Patent No. 6,669,781 (Jiang et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al claims a stencil/screen/pattern to assist in application of a printable adhesive in a desired pattern onto a substrate comprising: a sheet of material or stencil pattern, the sheet or pattern having a top surface and a bottom surface; a plurality of apertures in the sheet of material defining a desired pattern for application of the printable adhesive; and a polymeric coating applied to the bottom surface of the sheet to retard spreading of the printable adhesive onto the bottom surface of the sheet. Jiang et al claims both the coating and the material have a surface tension, the surface tension of the coating being less than the surface tension of the material such as set forth in claims 9-12, 41,

43, 46-47 and 49. Jiang et al fails to claim that the sheet of material is impervious to the adhesive but the claimed stencil or sheet of material which is stainless steel is impervious to adhesive. Jiang et al is silent to the coating being applied to the bottom of the sheet in a manner so as to obstruct of the flow of printable adhesive through the apertures onto the die and thereby reads on the claimed negative limitation of coating the sheet of material without obstruction of the adhesive through the apertures of the sheet. Further with respect to claim 13-14, 40, 42, 44-45 and 50-52, Jiang et al claims the stencil is further comprised of a coating layer to promote spreading of the printable material applied to the top surface and side walls of the sheet of material and the layer is selected from the group consisting of one of tungsten, tungsten carbide, tungsten nitride. Jiang et al is capable of its end use as a semiconductor stencil as set forth in claims 9-14, 40-47 and 49-52 since it claims every structural element of the claimed stencil. With respect to claim 48, Jiang et al claims the surface tension of the coating which is claimed as being polytetrafluoroethylene is at least an order of magnitude less than the surface tension of the material which is claimed as stainless steel.

Claims 9-13 and 40-52 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,599,365 (Jiang et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because Jiang et al claims a semiconductor stencil/screen/pattern to assist in application of a printable adhesive in a desired pattern onto a substrate comprising: a sheet of material or stencil pattern, the sheet or pattern having a top surface and a bottom surface; a plurality of apertures in

the sheet of material defining a desired pattern for application of the printable adhesive; and a polymeric coating applied to the bottom surface of the sheet to retard spreading of the printable adhesive onto the bottom surface of the sheet. Jiang et al claims both the coating and the material have a surface tension, the surface tension of the coating being less than the surface tension of the material such as set forth in claims 9-12, 41, 43, 46-47 and 49. Jiang et al fails to claim that the sheet of material is impervious to the adhesive but the claimed stencil or sheet of material which is stainless steel is impervious to adhesive. Jiang et al is silent to the coating being applied to the bottom of the sheet in a manner so as to obstruct of the flow of printable adhesive through the apertures onto the die and thereby reads on the claimed negative limitation of coating the sheet of material without obstruction of the adhesive through the apertures of the sheet. Further with respect to claim 13-14, 40, 42, 44-45 and 50-52, Jiang et al claims the stencil is further comprised of a coating layer to promote spreading of the printable material applied to the top surface and side walls of the sheet of material and the layer is selected from the group consisting of one of tungsten, tungsten carbide, tungsten nitride. Jiang et al is capable of its end use as a semiconductor stencil as set forth in claims 9-14, 40-47 and 49-52 since it claims every structural element of the claimed stencil. With respect to claim 48, Jiang et al claims the surface tension of the polymeric coating is known to exhibit a surface tension having at least an order of magnitude less than the surface tension of the material which is claimed as stainless steel as disclosed by applicant in the specification.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 46-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The originally filed specification fails to teach or suggest a semiconductor die stencil to assist in application of a printable adhesive material onto a substrate comprising: a sheet of material which is impervious to a printable adhesive material applied thereto; a plurality of apertures in the sheet material defining a desired pattern; and a coating applied to at least one surface of the sheet to promote spreading of the printable adhesive material, wherein the coating has a surface tension at least one order of magnitude less than the sheet. Further, with reference to dependent claim 52, the originally filed specification fails to teach that coating has a surface tension at least one order of magnitude less than the sheet wherein the coating is selected from the group consisting of tungsten, tungsten carbide, tungsten nitride, nickel and nickel alloy.

The recitation that the coating has a surface tension at least one order of magnitude less than the sheet which has apertures defining the desired pattern presents new matter. The originally filed specification teaches the sheet of material with apertures defining the desired pattern is constructed from a metal or metal alloy and plating is applied to metal or metal alloy pattern but fails to teach the plating material

has a surface tension at least one order of magnitude less than the metal or metal alloy sheet.

The originally filed specification fails to teach or suggest a semiconductor die stencil to assist in application of a printable adhesive material onto a substrate comprising: a stainless sheet of material which is impervious to a printable adhesive material applied thereto; a plurality of apertures in the sheet material defining a desired pattern; and a coating selectively applied to the bottom surface of the sheet to retard spreading of the printable adhesive material onto the bottom surface of the sheet.

The examiner has interpreted that the recitation that the "coating selectively applied to the bottom surface of the sheet to retard spreading of the printable adhesive material onto the bottom surface of the sheet" as claiming that select portions of the bottom surface of the stencil have the coating to retard spreading of the printable adhesive while other portions of the bottom surface, which contacts the semiconductor die, do not have the recited coating which is not disclosed by originally filed specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

Claims 46-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 46 of "a coating selectively applied to the bottom surface of the sheet to retard spreading of the printable adhesive" is confusing since it is unclear

whether one is claiming the type of coating is selected to retard spreading of the printable adhesive and then is applied to the bottom surface of the stencil or whether one is claiming the coating to retard spreading of the printable adhesive is limited to the bottom surface of the sheet or whether one is claiming that select portions of the bottom surface of the stencil have the coating to retard spreading of the printable adhesive while other portions of the bottom surface do not have the recited coating.

Claim 51 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The recitation in claim 51 that the coating has a surface tension greater than the surface tension of the sheet does not further limit claim 50 which recites that the coating has a surface tension which is at least one order of magnitude less than the sheet.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 59-76868 in view of Hefele.

Japan '868 teaches a die stencil to assist in application of a printable material in a desired pattern onto a substrate comprising: a sheet of metal material which is impervious to a printable material or adhesive applied thereto; a plurality of apertures in the sheet of material defining a desired pattern for application of the printable material; and a coating applied to surfaces of the sheet of material including bottom surface of the sheet to retard spreading of the printable material onto surfaces of the stencil including the bottom surface of the sheet. Japan '868 is silent as to the obstruction of the flow of printable material through the apertures and thereby reads on the negative limitation that the material flows without obstruction of the flow of printable material through the apertures. Japan '868 teaches the coating is a polymeric material which within the scope of claims 8 and 11, specifically tetrafluoroethylene which is identical to that disclosed applicant at page 9 lines 12-22, and the material of construction of the

sheet of material is within scope of that disclosed by applicant at page 9 lines 6-11 and thereby inherently reads on the claimed limitations of the coating and the sheet of metal material (surface tension properties) such as set forth in claims 46-49. Japan '868 teaches the sheet of material is comprised of metal but fails to teach that sheet of material is constructed from stainless steel or a stainless steel semiconductor die stencil sheet. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the stencil base 1 from stainless steel since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and especially since Hefele teaches the use of a stainless steel as the stencil base 1 in a semiconductor environment for a coated pattern stencil for the obvious advantage of stainless steel- good corrosion resistance. In re Leshin, 125 USPQ 416. The recitation that the coating is selectively applied to the bottom surface of the Japan '968 stencil sheet does not structurally further limit the apparatus over Japan '868 since Japan '968 teaches selecting a coating and applying the coating to the bottom surface of the stencil. Alternatively, it would have been obvious to apply the coating material to retard spreading of the printable adhesive on the bottom surface of the Japan '868 stencil since Hefele teaches applying coating on select surfaces of the stencil such as the bottom surface to ensure even contact with the underlying substrate. Note with the term "comprising" the stencil is open to other surfaces of the stencil being coated with a coating material to retard spreading of the printable adhesive. Japan '968 is capable of the end use of assisting in the application of a printable material or a printable adhesive

material in a desired pattern onto a semiconductor die since it teaches every claimed element of the apparatus/die stencil as set forth in claims 46-49.

Claims 9-14 and 40-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Caincross et al 5,447,757.

Caincross et al teaches a stencil/device/apparatus as disclosed in Examples which is comprised of the following elements: a top surface, a bottom surface, and one or more side surfaces. Caincross et al bottom surface having a surface tension defined by the polymeric edge and the surface tension of the polymeric edge has at least one order of magnitude less than the surface tension of the top surface and less than a surface tension of the side surfaces defined in part by the silver screen which can be plated using a variety of material including nickel (see column 7 lines 39-45). Cairncross et al stencil is capable of being used as a semiconductor die stencil since Cairncross et al teaches each of the structural elements of the claimed stencil/device/apparatus. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Thus every element of the stencil/device/apparatus is taught by Caincross et al. With respect to claims 40-41, Cairncross et al teaches a top surface within scope of claim 40 (nickel coating on the silver screen) and bottom surface which is a polymeric material. With respect to claim 14, Cairncross et al teaches the first

surface having a nickel coating which is within the scope of the material claimed by applicant thereby inherently providing the function of promoting the flow of adhesive onto the substrate and such first surface metal are known to have a surface tension which is one order of magnitude greater than the polymeric material set forth by Cairncross et al. With respect to claims 44-45, the same rejection applied to claims 40-41 is applied here. With respect to claim 10-13, Cairncross et al teaches a stencil/device/apparatus as disclosed in Example 3 as well as Example 1 which is comprised of the following elements: a top surface, a bottom surface, and one or more side surfaces. Caincross et al bottom surface having a surface tension defined by the polymeric edge which less than the surface tension of the top surface and less than a surface tension of the side surfaces defined in part by the silver screen which can be plated using a variety of material including nickel (see column 7 lines 39-45). Cairncross et al stencil is capable of being used as a semiconductor die stencil since Cairncross et al teaches each of the structural elements of the claimed stencil/device/apparatus. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The surface tension of the polymeric ledge on the Cairncross et al is less than the nickel top surface of the nickel plated silver screen thereby retarding flow of adhesive relative to the flow of adhesive on the nickel surface

of the nickel plated silver screen. Note the screen has a thickness so as to define side surfaces and these side surfaces are coated with a plated layer of nickel. With respect to claims 42-43, Cairncross et al teaches a top surface within scope of claim 40 (nickel coating on the silver screen) and bottom surface which is a polymeric material.

Claims 9,14,40,45 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn et al 4,803,110 in view of Hefele.

Ahn et al teaches an apparatus/device/composite mask or stencil which is a perforated sheet of material having a top surface and bottom surface and one or more side surfaces as shown in Figures 2-3. Ahn et al teaches that the stencil layer of the composite stencil or mask is placed against a ceramic base for applying a pattern thereon and the paste is extruded through the mesh layer and then through the openings 38 and 40 of the stencil layer. Ahn et al teaches at column 4 lines nickel coating surfaces of the metal mask that come in contact with paste material to improve the resistance of a chemical reaction between the composite mask or stencil and the paste thereby the nickel coating layer which reads on the coating disclosed by applicant inherently provides the function of promoting adhesive running onto a semiconductor die. Ahn et al fails to teach the bottom surface of his composite mask or stencil is not coated with a protective coating. However, Hefele teaches at column 2 line 64 to column 3 line 2 a composite mask or stencil for use in applying a paste to a substrate wherein top surface and side wall surfaces of each aperture is provided with a wear-resistant coating. Hefele also teaches that the wear-resistant coating is "preferably" applied to the bottom surface of the composite mask or stencil which infers to one

skilled in the art that wear resistance coating to the bottom surface is not required and not needed dependent on surface characteristics of the substrate against which the bottom surface of the stencil or mask is placed. Therefore, it would have been obvious to provide the Ahn et al chemical reaction resistant coating (nickel) on top surface of the copper stencil base but not on its bottom surface since the Ahn et al bottom surface is placed against the substrate and is not in direct contact with the paste and especially since Hefele teaches a coating provided to increase wear resistance of the stencil may be limited to the surfaces of the stencil including the top surface but not needed on the bottom surface of the stencil or mask dependent on surface characteristics of the substrate against which the bottom surface is placed. The recitation of the intended end use of composite mask or stencil as a semiconductor die stencil does not structurally further limit the claimed device/apparatus over the above recited combination of references since Ahn et al teaches each of the structural elements of the claimed apparatus/device/ composite mask or stencil. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Ahn et al teaches a stencil having at least a first surface and a second surface. The Ahn et al' s first surface is comprised of nickel plating layer which is within the scope of the material disclosed and claimed by applicant thereby the nickel plating layer inherently providing

the function of promoting adhesive running onto a semiconductor die. Thus, absent the new matter, Ahn et al teaches each of the structural elements of the apparatus/device as set forth in claims 50-52.

Claims 10-13, 43 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyfus in view of Cahne 3,008,601.

Dreyfus teaches an apparatus/device which is a perforated sheet of material having a top surface and bottom surface and one or more side surfaces. Dreyfus apparatus/device is capable of the end use as a stencil since it has the structure required for a stencil, that is, an impervious sheet of material perforated with a pattern of openings through which a material can be forced. Dreyfus teaches the material of construction of the perforated sheet includes a wide variety of metal materials including stainless steel, aluminum and the like. Dreyfus fails to teach the surface tension of one surface, bottom surface, is less than the surface tension of other surfaces, top surface and the side surfaces. However, Cahne teaches an apparatus/device which is comprised of a sheet of metal material having a polymer coating applied only on one surface. Cahne teaches providing a coating of polytetrafluoroethylene on the sheet of metal material which is identical to the coating disclosed by applicant thereby inherently providing the claimed property of retarding the spread of printable adhesive. Cahne fails to teach the sheet of material is perforated so to act as a stencil. However, it would have been obvious to modify the Dreyfus perforated sheet of metal material, stainless steel or aluminum, to provide a coating only on one side since Cahne teaches providing a coating of polytetrafluoroethylene on a metal material for used in high temperature

environments, aluminum, and provide the coating disclosed by applicant only on one side of the sheet of material such as a bottom or lower side 12 as shown in Figure 5 to prevent sticking of material being treated to the recited surface with the surface tension of the coated surface being less than the surface tension of other surfaces, top surface and the side surfaces. The recitation of the intended end use of perforated sheet coated on one side with the coating of a polymeric material, polytetrafluoroethylene, as a semiconductor die stencil does not structurally further limit the claimed device/apparatus over the above recited combination of references since Dreyfus in view of Cahne and Johnson teaches each of the structural elements of the claimed apparatus/device. Note it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ 2d 1647 (1987). "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Thus claims 9-13, 41 and 43 are obvious over the above recited references. With respect to claims 46-49, the same rejection applied to claims 9-13 and 43. Cahne fails to teach the coating of polytetrafluoroethylene is provided on stainless sheet. However, it would have been obvious given the modified Dreyfus perforated sheet of metal material with the Cahne polymeric coating applied onto at least one side of the sheet of material, at least one top or bottom surface, to construct the perforated sheet of material from another known material use in such high

temperature environments such as stainless steel for the known advantages of stainless steel which include high corrosion resistance.

Applicant's arguments filed 9/21/2006 have been fully considered but they are not persuasive.

Applicant's argument that Cairncross fails to teach the mesh structure does not include a polymer film on a contact surface such that surface tension of all portions of the mesh are equivalent is found to be non-persuasive since it is not commensurate in scope with claim limitations. Claim 10 is directed to a semiconductor die stencil having at least a first surface and a second surface, the first surface having a surface tension less than a surface tension of the second surface to retard adhesive running from the second surface onto the first surface and is silent to the surface tension of the mesh area of the stencil having surface tension less than a surface tension of the second surface of mesh as argued by applicant.

Applicant has argued that Cairncross et al fails to teach a semiconductor die stencil having at least a first surface and a second surface, the first surface having a surface tension greater than a surface tension of the second surface to promote adhesive running onto a semiconductor die is found to be non-persuasive. Cairncross et al teaches the first surface of the Cairncross et al has a nickel coating and such nickel coating is within the scope of the material claimed by applicant thereby inherently providing the function of promoting the flow of adhesive onto the substrate and such first surface metal are known to have a surface tension which is one order of magnitude

greater than the polymeric material which is arranged on a second surface of the stencil set forth by Cairncross et al.

Applicant's argument that Dreyfus and Cahne are non-analogous art is found to be non-persuasive. Applicant's claims are directed to a sheet of material having a top surface and bottom surface, the sheet of material being constructed from a material which is impervious to a printable coating which is an adhesive applied thereto, a plurality of apertures in a sheet of material defining a desired pattern and a coating of a polymer (polytetrafluoroethylene) applied to the bottom surface of the sheet which reads on the coating disclosed by applicant within the specification thereby inherently provides the function to retard flow of adhesive. Therefore, contrary to applicant's arguments, it is deemed that the combination of Dreyfus and Cahne teaches every positively claimed element of the apparatus and therefore deemed to be analogous art.

Applicant's argument that Ahn et al fails to teach a protective coating applied to the bottom surface of the stencil is found to be non-persuasive since it is not commensurate in scope with claim limitations. Claim 9 fails to claim a coating applied to the bottom surface rather claims the bottom surface has a surface tension which is at least one order of magnitude less than surface tension of the top surface which broadly reads on a composite stencil having a coating only on the top surface and side surfaces of the stencil base which has a surface tension which is at least one order of magnitude greater than the surface tension of the uncoated bottom surface of the stencil base. Claim 14 fails to claim a coating applied to the bottom surface rather claims a semiconductor die stencil having at least a first surface and a second surface, the first

surface having a surface tension at least one order of magnitude greater than a surface tension of the second surface to promote adhesive running onto a semiconductor die which broadly reads on a composite stencil having a coating only on the top surface which has a surface tension which is at least one order of magnitude greater than the surface tension of the uncoated bottom surface of the stencil base. Claim 50 fails to claim a coating applied to the bottom surface rather claims a semiconductor die stencil to assist in application of a printable adhesive material onto a substrate comprising: a sheet of material which is impervious to a printable adhesive material applied thereto; a plurality of apertures in the sheet material defining a desired pattern; and a coating applied to at least one surface of the sheet to promote spreading of the printable adhesive material, wherein the coating has a surface tension at least one order of magnitude less than the sheet which broadly reads on a composite stencil having a coating only on the top surface which has a surface tension which is at least one order of magnitude greater than the surface tension of the uncoated bottom surface of the stencil base.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda A. Lamb whose telephone number is (571) 272-1231. The examiner can normally be reached on Monday-Tuesday and Thursday-Friday with alternate Wednesdays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla, can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brenda A Lamb
Examiner
Art Unit 1734